IN THE CLAIMS:

Please cancel claims 1-16 without prejudice. Please add new claims 17-31 as follows.

Claims 1-16. (Cancelled)

17. (New) A method for determining the location and/or orientation of an object in a predetermined coordinate system, in which method in the object there is arranged a set of signal sources in a known manner in relation to the co-ordinate system of the object, and in which

transmitting a predetermined signal from the signal sources,

receiving the signal transmitted from the signal sources with a receiver which comprises signal receivers, and

computing the location and/or orientation of the object based on the received amplitudes of the signals, wherein

determining the amplitudes of the received signals, said amplitudes being independent of each other, by computationally taking into account the correlation between the transmitted signals, said transmitted signals being transmitted simultaneously and having arbitrary waveforms,

determining each signal source separately from the independent amplitudes, and

computing the location and/or orientation of the object at the time interval being examined based on the independent amplitude distributions associated with the signal sources by adjusting the numerical amplitudes of the signal sources to the amplitudes measured using the receiver, said adjusting the amplitudes performed by setting the

geometrical free parameters of the signal sources and/or of the receiver to values by which the difference between the calculated and measured amplitude distributions is at its smallest.

18. (New) The method according to claim 17, wherein

computing the location and/or orientation of the signal sources in the co-ordinate system of both the object and the measuring device from values set to free parameters, and

computing the location and/or orientation of the object in relation to the receiver by using known locations of the signal sources.

19. (New) The method according to claim 18, wherein in order to determine an individual signal source:

generating the product of a signal to be estimated for each signal specifically and of a signal received by a receiver,

integrating the products over a predetermined time T in order to obtain a preliminary result for the measured amplitudes sent by the signal sources, and

generating the product of the preliminary result and of the correction coefficient, in which the correction coefficient is a quantity describing the correlation between the signals sent from different signal sources, in order to obtain the amplitude of the received signal for each signal specifically.

20. (New) The method according to claim 18, wherein

generating the product of the signal to be estimated, of the correction efficient and of the received signal, in which the correction coefficient is a quantity describing the correlation between the signals sent from different signal sources, and

integrating the products over a predetermined time T in order to obtain a measuring result for the measured amplitudes of the signals sent by the signal sources.

21. (New) The method according to claim 18, wherein

generating the signal product of the signal to be estimated and of the chosen coefficient,

generating the product of the received signal product and of the received signal,

generating the products of the obtained signal product and of the received signal,

integrating the products over a predetermined time T in order to obtain a preliminary result for the measured amplitudes of the signals sent by the signal sources,

generating the product of the preliminary measuring result and of the correction coefficient, in which the correction coefficient is a quantity describing the correlation between the signals sent from different signal sources and the effect of the chosen coefficient, in order to obtain the amplitude of the received signal for each signal specifically.

22. (New) The method according to claim 19, wherein the products are accentuated by a window function w.

23. (New) The method according to claim 17, wherein

sending a signal in a sine form from the signal sources, and that

using in the computation as the estimated signal a signal of almost the same form as the sent signal.

24. (New) The method according to claim 23, wherein using in the computation a second signal being at the same frequency with the sent signal that has a difference in phase in relation to the estimated signal.

25. (New) The method according to claim 17, wherein

receiving useful signal by means of a receiver, and

filtering, by means of the signal source, the sent signals form the useful signal.

26. (New) The method according to claim 17, wherein estimating signals that correspond to the signals of the signal sources attached to a moving object in a predetermined manner for estimating the motion of the object.

27. (New) The method according to claim 17, wherein the determination of the location and/or orientation of the object is repeated in order to determine the relative location of the object by repeating temporally overlapping measuring periods.

28. (New) The method according to claim 22, wherein using signal forms of known sources of interference as the estimated signal.

29. (New) The method according to claim 17, wherein

generating a return switching from the obtained amplitudes to the signal sources, and

controlling the transmission power of the signal sources by means of the return switching.

30. (New) The method according to claim 17, wherein

subtracting the signals computed at the measured signals, and

specifying the measuring result by means of the remaining signal.

31. (New) The method according to claim 17, wherein

estimating one or more signals that differ from the signals of the signal sources or from those of the known sources of interference, and

specifying the location result based on the obtained measuring result.